THE IMPACT OF COMMUNITY MENTAL HEALTH FUNDING LEVELS ON THE PERCENT OF PRISON POPULATION WITH MENTAL HEALTH DIAGNOSES

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ABSTRACT

This work examines whether an increase in community or evidence-based mental health services for persons with a history of both mental illness and criminal justice system involvement would reduce the incarceration rate of this population. If such a correlation exists, significant savings in both systems is possible. This work is important to guide policymakers in making prudent investment of public dollars while achieving cost-effective and highly desired societal outcomes; not to mention the improved individual quality of life outcomes that might also result.

A brief history of the mental health and criminal justice systems is provided in order to highlight the intertwining history and functioning of these systems. The literature review discusses the theoretical understanding of mental illness, deviance and criminality, legal standards of diminished capacity and the capacity to knowingly violate the law. The prevalence of mental illness and criminal behavior is provided as context for the demographics of persons with a history of both. The availability of mental health services within the state correctional system is discussed as well as diversion from the correctional system at time of arrest, prior to booking, before adjudication and at post-release, including several evidence-based best practices programs.

Previous research has identified several personal attributes, societal characteristics and other factors that may influence the incarceration of persons with mental illness. Among these potential factors are: personal biological and cognitive attributes, prior criminal involvement as a juvenile or an adult, socio-economic status (including homelessness), crime and unemployment rates, and the improved correctional diagnosis of serious mental illness.

Previous research has also identified mental health spending and utilization as directly controllable influential factors.

Recently released URS state-level data for 2005 and 2006 are used to test the hypothesis that increased utilization of community based mental health services or evidence-based practice programs in 2005 would reduce the number of persons with mental illness incarcerated in 2006. Alternatively, a reduction in utilization of community based mental health services or evidence-based practice programs in 2005 would increase the number of persons with mental illness incarcerated in 2006.

Regression analyses of the state-level URS data set revealed that a statistically significant relationship did not exist between the 2005 utilization of community based mental health services or evidence-based practice programs and incarceration in 2006.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter 1 – Introduction: Purpose and Significance of Study

Background of the Problem

Persons with serious mental illnesses are overrepresented among the United States jail and prison population. In the general U.S. population, an estimated 19 percent have a mental disorder (US Surgeon General, 1999, p. 25) of any kind or severity and five percent of adults in the general U.S. population have a serious mental illness (Kessler, et al., 1999), compared to 16 percent of the U.S. prison and jail population with a serious mental illness (Ditton, 1999, p. 1).

Mental illness is a diagnosable mental disorder characterized by alterations in cognition (thinking), mood, or behavior; or some combination thereof and is associated with distress or impaired functioning (U.S. Surgeon General, 1999). Mental illness is thought to be the result of the interaction of biological, psychological and socio-cultural factors (U.S. Surgeon General, 1999, Ch 2, p. 27) a concept first put forward by George Engle (1977). "Serious mental illness" includes diagnoses of schizophrenia, schizoaffective disorders, severe mood disorders, or severe personality disorders which significantly impair a person's ability to carry out primary aspects of daily life including self-care, household management, interpersonal relationships, work or school (Federal Task Force, 1992, p. 7). (See, the Diagnostic and Statistical Manual of Mental Disorders (DSM IV, American Psychiatric Association, 2009) for definitions and presenting characteristics of each type of mental disorder mentioned above).

The Criminal Justice / Mental Health Consensus Project (the "Consensus Project") is perhaps the most comprehensive interdisciplinary national group of professionals studying the role of mental illness in the lives of persons who are involved in the criminal justice

system. The *Consensus Project* is a collaborative effort of the Council of State Governments Justice Center; local, state and federal policymakers; and, criminal justice and mental health professionals. It was formed to identify and promote evidence-based services, promote systemic improvements and replicate community and institutional best practices. In its June 2002 Report, the Consensus Project made 46 policy recommendations ranging from initial law enforcement contact to incarceration and re-entry. Key mental health and criminal justice professionals forming the Consensus Project continue to work together and share relevant program evaluation and project data from projects and services, and posts public information at its website.

Fiscal realities, political realignment, philosophical shifts, and medical advances, combined to produce deinstitutionalization, a dramatic shift from an institutional- to a community-based public mental health system. Although professionals and researchers raised concerns, Steadman (1984) cautions that there is no evidence to support a direct causal relationship between deinstitutionalization and an alleged increase in mental illness among the prison/jail population (Census Report, 2002, footnote 11).

Law enforcement encounters persons with mental illness in community mental health treatment centers, private residences or among those who are homeless. Law enforcement officers typically receive very little training, little administrative support, and assume erroneously that arrest initiates mental health treatment (Lurigio and Schwartz, 2000). The Los Angeles Police Department alone has reported spending thousands of hours each year transporting individuals to hospitals for mental health care (The Consensus Report, 2002, footnote 8) in what is viewed as a largely futile effort.

Yet, law enforcement officers are relied upon to deal with persons with mental illness who are, or are perceived as, unruly or threatening, unable or unwilling to comply with their medications regimen, follow house or program rules, or are unable to resolve interpersonal problems with housemates, relatives, landlords or others (Lamb, Weinberger and DeCuir, 2002).

Of the estimated four million people in the United States with severe mental illness, approximately 200,000 are homeless. Of the estimated 600,000 single adults that are homeless in the United States, approximately 200,000 are believed to be seriously mentally ill (Federal Task Force on Homelessness and Severe Mental Illness, 1992). Law enforcement officers encounter homeless persons who are mentally ill in the context of enforcing public order; jailing or citing individuals for loitering, urinating in public, and/or disturbing the peace. According to the Bureau of Justice Statistics, over one-quarter of the inmates with mental illness in local jails were incarcerated for a public order offense (Ditton, 1999).

People with mental illness are more likely to have had contact with law enforcement and are more frequently incarcerated than those who do not have a mental illness. A Los Angeles study revealed that compared to other homeless people, those with a mental illness were twice as likely to have been picked up by police during the prior year (42 percent versus 19 percent) and were more likely to have been victimized on the streets, especially by assault (Farr et al., 1986). A New York State study found that over a five-year period, men involved with public mental health were four times more likely to be incarcerated; for women the ratio was six to one (Cox, et al., 2001). Consequently, mental health and criminal justice professionals conclude that the vast majority of individuals in jail or prison with a mental illness were more often arrested and incarcerated for exhibiting the untreated symptoms of

mental illness (Consensus Project, 2002); often referred to as the criminalization of mental illness. This project will analyze recently released data to see whether general or specialized mental health services reduce the number of incarcerated persons with mental illness.

Statement of the Problem

The effectiveness of outpatient residential community mental health services for criminal justice-involved population remains an area for further research and evaluation (Consensus Project, 2002). This analysis will test the hypothesis that greater relative availability of community mental health ("community services") or specialized ("evidenced-based") mental health services is correlated with a reduction in the incarceration of persons with mental illness in state prisons.

Methods and Procedures of the Study

The investigator will review a wide range of secondary literature including mental and behavioral health, sociology, criminal justice, and corrections to uncover the relevant theoretical framework with which to examine the mental health and criminal justice system responses to mental health symptoms and criminal behaviors. The investigator will gather publicly available data for the dependent, independent and control variables. The investigator will utilize publicly available state-level data on the number of inmates incarcerated in state prisons and local jails with a diagnosis of a serious mental illness for 2006 (dependent variable).

The investigator will gather and utilize as evidence of the relative availability of community mental health services (independent variable) three data components: the total dollars spent on community mental health services in each state during 2005, service utilization (average services per person) and penetration (number of persons seeking services

divided by the number of persons estimated to be in need of services). Gathering data for the dependent variable for 2006 and the independent variable for 2005 introduces a 12 month lag time into the regression formula. The regression formula will also control for cost of living, unemployment, poverty, crime rate, mental health utilization, relative job opportunities (the percentage of mental health clients employed versus unemployed) and the relative availability of evidence-based programs in each state (penetration and utilization rates).

Importance of the Study

Talcott Parsons' (1951) statement that "the dimension of conformity-deviance [is] inherent in and central to the whole conception of social action and hence of social systems" (p. 249) points to the significance of the law and order problem. Adler (1988) concludes that although there are inherent difficulties in counting mental patients within a correctional [jail] setting, her work suggests that a problem exists and that more in-depth studies should be initiated. Arrigo, (1996) acknowledges the need for exploring the intersection of the mental health and criminal justice systems, as little is presently known and there are many relevant examples demonstrating its importance in shaping forensic mental health practice or setting social policy.

This inquiry seeks a better understanding of the responses of and relationship between individual mentally ill and criminally involved persons and the mental health and criminal justice systems which this investigator believes may yield policy recommendations assisting both the criminal justice and mental health systems to better achieve their respective missions.

Research Questions

The investigator will utilize regression analysis of publicly available aggregate level data to determine whether the relative availability of community and evidence-based mental health services is correlated with a reduction in the number of persons incarcerated with serious mental illness.

Overview of the Thesis

Chapter Two will provide an overview of the literature in the mental health and criminal justice research and practice providing the basis for the hypothesis being tested. Chapter Three will describe the hypothesis and data analysis. Chapter Four will present and discuss the findings from the data analysis described in Chapter Three. Chapter Five will offer a summary of the work and provide conclusions and recommendations for future research.

Chapter 2 - Review of Literature

Chapter Overview

The preceding chapter provided a broad overview of the subject matter of this inquiry. This chapter will review the theoretical research on factors that may influence or contribute to the prevalence of mental illness among the inmate population. A brief history of both the mental health and criminal justice systems is provided at the beginning of this chapter to provide context for the overlapping environments out of which this work emanates.

A Brief History of the U.S. Mental Health Care System

Persons with mental illness have often been shifted from one institutional setting to another. In 16th and 17th century Europe, leprosariums, providing treatment for persons with leprosy, were converted to hospitals for the care of vagabonds, criminals and madmen (Foucoult, 1965). Similarly, in the U.S. in the early 19th century, persons with mental illness were confined in county alms-houses and persons with acute symptoms were housed in state asylums. In the early 20th century, states began to assume financial responsibility for the care and confinement of persons with mental illness. As a result, the number of state patients increased by 240 percent, nearly twice that of the increase in the U.S. population as a whole--at the same time, county alms-houses all but disappeared (Foucoult, 1965).

In the 1950s and 1960s, psychotropic drug regimens were discovered and implemented alone or in combination with psychosocial treatment resulting in significant functional improvement for a large number of patients. The success of these new treatments converged with a reform movement in the 1960s-1980s to close state mental hospitals and relocate patients back into the community to be served by a network of community-based

mental health services to be established by the Community Mental Health Centers Act of 1963. During this time period, the resident population of state mental hospitals was reduced by more than 75 percent or approximately 420,000 beds between 1955 and 1980; reversing the flow from alms-houses to state hospitals in the early part of this century. (See, Steadman and Morrisey, 1987, pp. 227-237, for more a detailed history of mental health treatment and services.)

In the 1970s and 80s scholars increasingly criticized deinstitutionalization as having resulted in the criminalization of the mentally ill (Arvanites, 1988, referencing: Abramson, 1972; Bonovitz and Guy, 1979; Bonovitz and Bonovitz, 1981; Dickey, 1980; Gudeman, 1981; Halpern, 1975; Slovenko, 1971; Stelovich, 1979; Teplin, 1984; and Whitmer 1980). Deinstitutionalization received additional attention by Jones (1983); Acre, et al., (1983); and Bassuk (1984) and was popularized in Newsweek's 1986 article "Abandoned."

However, Arvanites' (1988) concluded that the already overburdened criminal justice system is unlikely to be willing to confine the non-dangerous mentally ill in overcrowded facilities. Arvanites based his conclusion in part on Steadman, et al., (1982) wherein they concluded that deinstitutionalization was not a major factor in observed increases in state prison populations; although perhaps the jails were serving as a "dumping ground" for mentally ill people. In 1984, Steadman directly disputed evidence of a direct causal relationship between deinstitutionalization and an alleged increase in mental illness among the correctional population. Similarly, Culhane, in 1990, disputes that deinstitutionalization in the 1950s, 60s and 70s is a cause of homelessness in the 1980s; conclusions that are supported by the Consensus Project (2002).

In the 1970s recessionary period, observers noted a significant loss of affordable housing stock, a significant loss of jobs and a concomitant loss of mental health services consequent to large federal deficits. Observers disagreed as to whether the confluence of these events was a direct cause of an increase in the homeless population observed in the 1980s and 1990s. Belsky (2005) concludes that housing affordability (or the lack of affordable housing) is one of many causes of homelessness.

The loss of affordable housing stock has several potential contributors. Restrictions on the sale and rent rates of federal subsidized housing, approved in the 1960s were expiring by the 1970s and 1980s. Federal housing support for subsidized housing was reduced by $24.5 billion from $32 billion in 1981 to $7.5 billion in 1988 (Bratt, 1997). Tax credits and tax abatement policies encouraged developers to replace older, low rent units with luxury condominiums. Nationally, between 1970 and 1982, Single Room Occupancy (SRO) units declined by 1.2 million (Burghardt and Fabricant, 1987). Between 1974 and 1985, units (regardless of size) with rents of $300 per month or less (in constant 1985 dollars) declined by 1.6 million units (Apgar, 1990). Between 1985 and 1999, units with rents of $400 per month or less fell by more than 250,000 (Goodman 2001). Between 1993 and 2003 units with rents of $400 per month or less declined by 1.2 million units as a result of an influx of 34 million foreign-born immigrant households resulting in a modest increase of 118,000 renters without which the number of renters would have decreased by five percent or over two million renters (Joint Center for Housing Studies of Harvard University, 2006), while nearly three million new, high-end, high rent units were built, and two million affordable, older, lower-quality units were razed or withdrawn from inventory (Belsky, Goodman & Drew, 2005).

Although estimates of the affordability mismatch varies, the percent of affordable housing stock to households with the median income within a quintile fell for renters in the bottom quintile from 15 percent in 1980 to 12 percent in 1990 and seven percent in 2000 while the share of renter households in the bottom income quintile held steady at 32-33 percent of all renters in each of those years (Quigley & Raphael, 2004) revealing a large and growing mismatch (Belsky, Goodman & Drew, 2005). The size of the housing stock mismatch for households with incomes up to $16,000 per year exceeded the supply of affordable and available rentals by 5.2 million units in 2003 (Joint Center for Housing Studies of Harvard University, 2005).

The next section builds on the system description above by reviewing the literature related to mental health and criminal justice system interactions with individuals expressing features of mental illness, deviance and criminality — the crux of this inquiry.

Theoretical Framework of Mental Illness, Deviance, & Criminality

What is diagnosed as mentally disordered varies within and between cultures and groups (Goode, 1996). Within a single culture or a single group, there generally is consensus regarding persons who are severely and chronically psychotic, however, most persons do not present classic symptoms and in these cases disagreement among psychiatrists is high (Townsend, 1978, 1980; Edgerton, 1969). Illustrating this point is a study wherein non-mentally ill people were admitted to mental hospitals by claiming to have classic schizophrenic symptoms. Once admitted, these non-mentally ill people acted normally, yet their normal behaviors were interpreted as a manifestation of the *reported* mental disorder rather than resulting in a reevaluation of their diagnosis (Goode, 1996. See also Goffman, "The Moral Career of the Mental Patient" in Goode, 1996).

The level of variability and disagreement among psychiatrists underscores the importance of such distinctions in guiding social interventions such as criminal punishment and civil commitment (Szasz, 1976, in closing reflections by Engelhardt and Spicker, Editors), which relies upon a process of determining "mental competence, dangerous behavior and fitness to stand trial," terms which then are inevitably ambiguous and inconsistent (Mechanic, 1980).

Cultural understandings define both deviant behavior and appropriate responses to deviant behavior (Cohen, 1966). After receiving attention from Weber, Durkheim and others from 1890 to 1920 (Robertson and Taylor, 1973), theories of social control of deviant behavior were largely neglected until the second half of the 20th century (Black, 1984) when the focus shifted to law or governmental social control (Black, 1972).

The sociological explanation of deviance acknowledges that actors and actions are events located within a social system or structure and that the rate and distribution of events are a property of that social structure and conversely, the properties of the social structure determine the behavior of the members of that system (Cohen, 1966; Durkheim, 1951).

The psychological explanation of deviance focuses on the actor's characteristics and motivation, the situation, and the combination or interplay thereof (Cohen, 1966). The criminal is often portrayed as a conscious actor who intentionally departs from moral order, is intentionally calculating and deviant, maintains the deviance for some time and perhaps becomes part of a criminal subculture (Palermo, G.B., Gumz, E.J., Liska, F.J., 1992, citing Stark, Bainbridge, Crutchfield, Doyle and Fink 1983). By definition, a person with a mental illness has an impairment of cognition, which may call into question the ability of a person with mental illness, at some level of severity, to be intentionally deviant and calculating.

The ability of persons with mental illness to exercise judgment (Mechanic, supra,) is at the core of legal responsibility for a criminal act and the appropriateness of insanity defenses[1] and mitigating factors in a criminal case.[2] Having a mental illness does not relieve a person of legal responsibility for knowingly violating the law. A brief discussion of insanity defenses and mitigating factors follows to clarify a subject of much public misunderstanding.

Diminished capacity is a temporary mitigating factor or condition that occurred at the time of the criminal act and can include some conditions not eligible for the insanity defense (for example, intoxication). If proven, diminished capacity can result in charges being reduced to lesser offenses or may result in a more lenient sentence. The insanity defense is based on forensic evaluations that establish that the defendant was incapable of distinguishing between right and wrong. Some jurisdictions also require an evaluation to determine whether the person was incapable of controlling his/her behavior at the time of the criminal act. These legal concepts and criteria are derived from the American Law Institute's Model, which is a hybrid of the M'Naughton Rules and the irresistible impulse test.

The British M'Naughton Rule issued at 847 10 C. & F. 200, 1849 on the underlying case (1943), 4 St. Tr. (N.S.), established the presumption of sanity unless it is established that there was "a defect of reason from disease of the mind, as not to know the nature and quality of the act he was doing, or if he did know it, that he did not know what he was doing was wrong." The Insanity Defense Reform act of 1984, imposed the clear and convincing evidence standard which is a higher evidentiary burden than that required by the

[1] Arizona, Montana, Idaho and Utah have banned the use of the insanity defense
[2] Note that legal responsibility for a criminal act is a different concept from that of competency which is a defendant's ability to adequately assist in their legal defense;

preponderance of the evidence standard required in the M'Naughton case and added the requirement that the defendant suffer from a *severe* mental defect.

A 1991 eight-state study conducted by the National Institute of Mental Health showed that of all cases, the insanity defense was used in less than one percent of all court cases, and was successful in 26 percent of those cases (Callahan, 1991). A 2001 study, reviewing records over a ten year period showed that of the successful insanity defense cases, 90 percent of defendants had been previously diagnosed with mental illness (Schmalleger, 2001). Defendants who are found guilty by reason of insanity are often held until they are no longer a threat; often for longer than they would have otherwise been imprisoned. Although they cannot be held indefinitely Foucha v. Louisiana (1992), they also cannot challenge their confinement by attacking their successful insanity defense (Archuleta v. Hedrick (2004), 365 F.3d 644, 8th Cir. 2004).

Prevalence of Mental Illness

Prevalence of Mental Illness in the General Population

Epidemiologic Catchment Area studies in the early 1980s and the National Comorbidity Survey in the early 1990s estimated that 19-20 percent of U.S. adults have a mental disorder (Regier, et al., 1990, p. 8-19 and Kessler, et al., 1994) at any point in time. The estimated lifetime risk of any disorder by age 75 years is 50.8 percent which is only slightly higher than the observed lifetime prevalence of 46.4 percent (Kessler, et al., 2005). The median age of onset for anxiety and impulse-control (11 years for each) is much earlier than for substance use (20 years) and mood disorders (30 years). Half of all lifetime cases start by age 14 and three-fourths of all cases start by age 24 years (Kessler, et al., 2005).

The severity of mental illness is gauged by the persistence and level of functional impairment experienced by an individual. Estimates vary considerably of the number of U.S. adults who have "any type of mental health disorder" or adults who have "severe and persistent mental illness." The National Advisory Mental Health Council estimates that 19 to 20 percent of the U.S. adult population have a diagnosable mental disorder of any type; 5.4 percent have "serious mental illness" and about half or 2.6 percent have "severe and persistent mental illness" (U.S. Surgeon General, 1993). Regier (1990) estimates that seven percent of U.S. adults have mental health disorders with symptoms persisting for at least one year and eight percent are estimated to have long-term chronic mental illness (Regier, et al., 1990). The National Advisory Mental Health Council concludes that the one-half of one percent of the U.S. adult population who receive Social Security disability benefits for mental health related reasons, are among those who are the most severely disabled (U.S. Surgeon General, 1999).

Prevalence of Mental Illness Among Jail, State and Federal Prison Inmates

The total estimated correctional population for 2005 totaled 7.0 million people and for 2006 totaled 7.2 million people. In both 2005 and 2006, roughly one-third of the total correctional population were incarcerated and two-thirds were on community supervision (Glaze and Bonczar, 2007). The percent change from 2005 to 2006 of 2.3 percent, was consistent with the average annual percent change since 1995 (2.5 percent).

Table 1

United States 2005 & 2006 Correctional Population

	Total estimated	Community Supervision		Incarceration	
Year	correctional population	Probation	Parole	Jail	Prison
2005	7,051,900	4,166,757	780,616	747,529	1,448,344
2006	7,211,400	4,237,023	798,202	766,010	1,492,973

Percent change					
2005-2006	2.3%	1.7%	2.3%	2.5%	3.1%
Average annual percent change					
1995-2006	2.5%	2.4%	1.5%	3.8%	3.0%

Source: Glaze and Bonczar, 2006, p. 1.

More than half of those incarcerated--1.26 million federal, state and local jail inmates-- met DSM-IV criteria for a mental health problem, comprising 45 percent of federal prisoners, 56 percent of state prisoners and 64 percent of jail inmates (James and Glaze, 2006). Persons with mental illness averaged sentences that were five months longer than state prisoners without mental illness (James and Glaze, 2006). The number of persons on community supervision with a mental health problem is not surveyed by the Bureau of Justice Statistics. However, it is reasonable to conclude that persons with mental health problems or illness are at least as equally over-represented among those on community supervision as in the incarcerated population.

Table 2

Prevalence of mental health problems among prison and jail inmates, 2005, compared to lifetime prevalence in the United States, age 18 or older.

Any Mental Health Problem 2005	U.S. Prisons		U.S. Local Jails	U.S. Population
	State	Federal		
Number	705,600	70,200	479,900	
Percent	56.2%	44.8%	64.2%	~ 50%
Recent history of mental health problem	24.3%	13.9%	20.6%	
Symptoms of mental health problem	49.2%	39.8%	60.5%	

Source: James and Glaze (2006, Tables 1 and 2) provide the data for the first three columns (U.S. state and federal prisons and jails). Lifetime prevalence of any mental health problem among the U.S. population age 18 or older is provided by Kessler, et al., (2005) and discussed in the previous section.

James and Glaze (2006), Tables 1 and 2, (p. 3) define "recent history of mental health problem" as "in the year before arrest or since admission" and "symptoms of mental health disorders" is defined as "in the 12 months prior to the interview." The data does not

distinguish individuals with mental health history and/or symptoms prior to incarceration compared to those diagnosed or presenting with mental health symptoms since admission. Consequently, situational mental health symptoms that are the result of the incarceration environment are not distinguishable from those with long-term persistent mental health symptoms constituting serious mental illness.

The lifetime prevalence estimate of 10.6 percent of U.S. Population over age 18 for any mental disorder symptom, in James and Glaze (2006), from the National Epidemiologic Survey on Alcohol and Related Conditions 2001-2002 (NESARC) differs significantly from Regier (1990) or Kessler (1994) which suggest that at any point in time, between 19 to 20 percent of adults will have a mental disorder; or an individual adult will have a lifetime prevalence of 50 percent (Kessler, 2005).

Other Characteristics of Mentally Disordered Criminals

At year-end 2005, of state prisoners with a mental health disorder, 49 percent were convicted of a violent offense (homicide, sexual assault, robbery, and assault). Slightly more than half (51 percent) were incarcerated for either a property offense (burglary, larceny/theft or fraud): 19.6 percent; possession or trafficking drugs 19.3 percent; or a public order offense (carrying weapons, DWI or DUI) 11.9 percent (James and Glaze, 2006, p.7). Although the number of state prisoners convicted of a violent offense may appear significant, several large scale research projects conclude that only a weak association between mental health disorders and violence exists, and that when serious violence occurs it is a small fraction of the total and appears concentrated among those who use alcohol or other drugs (Steadman, et al., 1998) and more than half the time the target of the violence is a family member, friend or acquaintance (Ditton, 1999).

Correctional Mental Health Services

Nationally, most state prison systems screen inmates for mental disorders at a reception or diagnostic center prior to placement in a state prison. (For reference, the U.S. Department of Justice, Bureau of Justice Statistics criminal justice system process flow chart is attached as Appendix #1.) As of June 30, 2000, there were 161 mental health screening facilities with at least one in every state. There were 155 facilities providing specialized mental health / psychiatric confinement facility with one in each state except three; North Dakota, Rhode Island and Wyoming (Beck and Maruschack, 2001). At mid-year 2000 (the most recent data available), 89.5 percent of state prisons (1,394 of 1,558 state public and private adult correctional facilities; excluding federal facilities and privately operated federal facilities) reported that they provided mental health services to their inmates; 70 percent screen inmates at intake, 65 percent conduct psychiatric assessments; 51 percent provide therapy or counseling by a mental health professional, 73 percent distribute psychotropic medications and 66 percent help released inmates obtain community mental health services in communities where it was available (Beck and Maruschak, supra). An estimated 12.5 percent of state inmates (150,900) were in mental health therapy or counseling programs; ten percent (114,400) were receiving psychotropic medications; and less than two percent (19,900) were in 24 hour care; a total of 285,200 (approximately 25 percent) state inmates received some type of mental health care or treatment (Beck and Maruschak, supra).[3] State confinement facilities had significantly higher rates of mental health services than did community-based facilities (see Table 3, below). Mental health screening and treatment was more frequently provided at maximum or high-security facilities than minimum or low

[3] (Data on policies and numbers of inmates receiving mental health treatment within federal and privately operated facilities were unavailable see note at p. 8, Beck and Maruschak, 2001.)

security facilities. Of the 125 facilities that reported not providing any mental health services, 75 were community-based and 41 were minimum or low-security confinement facilities. However, the authors suggest that this may simply reflect the confinement of and provision of services to inmates with mental illness elsewhere within the respective state system (Beck and Maruschack, supra).

Table 3

Mental Health Services in State Prisons, 2000

	All facilities		Confinement facilities		Community-based facilities	
Mental health policy	Number	Percent	Number	Percent	Number	Percent
Total	1,558	*100*	1,109	*100*	449	*100*
Any screening/treatment	1394	*91.8*	1047	*95.4*	347	*82.2*
Screen inmates at intake	1055	*69.5*	855	*77.9*	200	*47.4*
Conduct psychiatric assessments	990	*65.2*	864	*78.8*	126	*29.9*
Provide 24-hour mental health care	776	*51.1*	693	*63.2*	83	*19.7*
Provide therapy/counseling	1073	*70.6*	926	*84.4*	147	*34.8*
Distribute psychotropic medications	1115	*73.4*	910	*83*	205	*48.6*
Help released inmates obtain services	1006	*66.2*	790	*72*	216	*51.2*
No screening/treatment	125	*8.2*	50	*4.6*	75	*17.8*
Not reported	39		12		27	

Note: Reported data excludes 84 Federal facilities and 26 privately-operated facilities in which at least half of the inmates were under Federal authority. Data includes facilities in which 50 percent or more of their inmates are regularly unaccompanied and those facilities whose primary function is community corrections, work release, or pre-release.

Source: Beck & Maruschak, 2001, Table 1.

Utilizing the reported corrections population data, applying conservative average length and cost of incarceration, probation and parole supervision per inmate per year reveals that as

much as $21.2 billion of the total $204 billion direct corrections expenditures may be expended on persons receiving mental health care or treatment.

Evidence-Based Diversion & Re-Entry Practices and Programs

The Bazelon Center for Mental Health Law (Bazelon) Fact Sheets for Advocates (2002), describes the diversion approaches that have been tried including at the time of arrest (pre-booking diversion); as the individual's case is initially processed in the jail (pre-booking diversion); following a booking but without a trail (post-booking diversion); at adjudication or the trial stage (court-based diversion); and following incarceration (re-entry programs) which is depicted below in Figure 1. Bazelon suggests that "[d]iversion is more likely to succeed, to violate individual rights less, and to be less costly if it occurs in the early stages of criminal justice processing" although it acknowledges that this may not be feasible in specific circumstances depending on "the seriousness of the crime or the individual's prior history (Bazelon, 2002, Fact Sheet #4, p. 2).

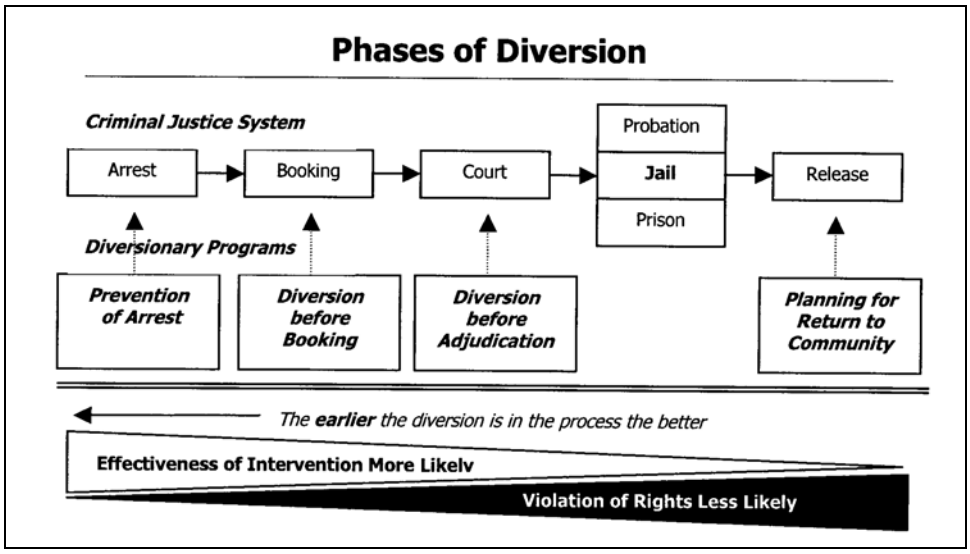

Figure 1. Phases of Diversion

Source: Bazelon Center for Mental Health Law, 2002, Fact Sheet #4. © 2002

Jail Diversion

In 1999, several authors noted that although jail diversion for persons with serious mental illness had been promoted for over 30 years, very few programs had been adequately

studied and virtually no empirical research on the effectiveness of such services existed (Draine and Solomon, 1999 and Steadman, Deane, et al., 1999). A randomized trial of case management services found no differences in outcome (Draine and Solomon, 1995) although more frequent arrests occurred among clients assigned to more intensive case management services (Draine and Solomon, 1994).

In 1997, the Substance Abuse and Mental Health Administration (U.S. SAMHSA) began a three year research initiative on the characteristics and outcomes of various types of jail diversion programs in nine sites throughout the United States. Five key elements were associated with successful programs including relevant mental health, substance abuse and criminal justice agency involvement in the program, regular meetings between key agency personnel; service integration through a "boundary spanner" or interdepartmental liaison, strong leadership and non-traditional case management approaches relying less on academic credentials and more on cross-system experience (Steadman, Deane, Morissey, Westcott, Salasin & Shapiro, 1999). The authors concluded that "program effectiveness depended on building new system linkages, viewing detainees as citizens and holding the community responsible for the full array of services needed by detainees" (Steadman, et al., 1999 at p. 1620).

In 2005, Steadman and Naples, reviewed effectiveness of jail diversion programs for persons with serious mental illness and co-occurring substance use disorders based on self-reported outcomes 12 months after diversion. Steadman and Naples reviewed self-reports from participants in three pre-booking and three post-booking programs. Steadman and Naples' findings "suggest that jail diversion reduces time spent in jail without increasing public safety risk" (p. 163).

In 2004, Morrissey looked at three years of jail detentions in King County WA and Pinellas County FL concluded that while Medicaid benefits alone were not enough to keep Medicaid-eligible detainees with severe mental illness out of jail, in both counties, odds ratio from multivariate analyses suggest that the combination of benefits and services kept people functioning in the community longer than those without any or fewer days of benefits and services (OR = .33 to .83, $p < .001$). Morrissey recommended additional research to assess the effectiveness of more comprehensive interventions.

Post-Release Services and Treatment to deter re-incarceration

A national survey revealed 82 percent of probation and parole agency directors indicated a need for improved access to mental health services (Lamberti, Weisman, and Faden, 2004). Several programs and key evidence-based practices have been implemented and tested over the past ten years including Washington State's Dangerous Mentally Ill Offender Program (DMIO), Assertive Community Treatment (ACT) and the Mentally Ill Offender Treatment and Crime Reduction Act (MIOTCRA) Programs.

Washington State: Dangerous Mentally Ill Offender Program

Washington State's Dangerous Mentally Ill Offender (DMIO) program was authorized in 1999 by the State Legislature and provides services and treatment to participants for up to five years after release from prison. Approximately 165 clients are enrolled in the program in any given month. At 2.5 years post-release, new offense rates were reduced by 38 percent, and felony recidivism was reduced by 45 percent. This reduction in recidivism represents a return of $1.03 for every public dollar spent on the program (Mayfield, 2007). Mayfield compares these findings at 2.5 years post-release to the findings

at 1.5 years post-release by Lovell, D., Gagliardi, G., and Phipps P. (2005). (See, Lovell, D., (in press), for more information on program costs and implementation).

ACT: Assertive Community Treatment

Assertive Community Treatment (ACT) is an identified evidence-based practice model for adults with severe mental illness that originated out of Madison, Wisconsin in the 1960s. Individual programs do report successes. A 2003 review of the Mentally Ill Offender Crime Reduction Grant (MIOCRG) Program in California (Cosden, et al., 2003), an ACT model program, indicated reductions in criminal activity at 6-month and 12-month follow-up periods. Lamberti, Weisman and Faden (2004, p. 1286) summarizing findings from a review of controlled studies of ACT program's impact on arrest rates by Bond, Drake and Mueser (2001) found that "70 percent of studies showed no effect, and ten percent showed worsening." Bond (2002) concludes that "[t]he evidence for the effectiveness of ACT is quite consistent across numerous reviews" appearing in the literature (p. 2). Bond (2001) reviews 25 randomized controlled trials of ACT. These studies conclude that compared to usual community care, ACT "successfully engag[es] clients in treatment, substantially reduces psychiatric hospital use, increases housing stability, and moderately improves symptoms and quality of life" (Bond, 2002, p. 2). Lurigio and Swartz (2000, p. 88-89) report that ACT "program success and cost effectiveness" has been established (Burns and Santos, 1995, Test 1992, Torry 1986, Wolff, Helminiak and Diamond 1995) and is particularly well-suited to persons with severe mental illness who have avoided or responded poorly to traditional outpatient mental health care.

Morrissey and Meyer (2005) compare the current evidence for the effectiveness of Assertive Community Treatment ACT, FACT (Forensic ACT), Forensic Intensive Case

Management (FICM) and other potential evidence-based practices. Morrissey and Meyer conclude that the effectiveness of ACT is well established by over 55 controlled studies and comprehensive reviews (Bond, Drake, Mueser, & Latimer, 2001). The authors indicate that there has been little standardization of the hybrid Forensic ACT teams and few cases were found of high-fidelity ACT team applied to criminal justice populations. The focus of FICM is in linking and coordinating services rather than providing services as FACT teams. The authors recommend including in FICM total project costs, the cost of other treatment and services to which participants are linked. Evidence on the effectiveness of FACT teams is limited to two studies (McCoy, Roberts, Hanrahan, Clay & Luchins, 2004 and Weisman, Lamberti, & Price, 2004). FICM effectiveness comes from several published studies.

Morrissey and Meyer (2006/2008) conclude that the high cost, high intensity, 24 hr / 7 days / week ACT community or dual diagnosis treatment teams, which have proven successful for persons with severe mental illness are appropriate for perhaps 20 percent of the most disabled segment, and community management models of choice are appropriate for the other 80 percent of less disabled individuals.

MIOTCRA Programs and Services

The Mentally Ill Offender Treatment and Crime Reduction Act (MIOTCRA) was signed into law in 2004 and funded grant programs in FY 2006 and 2007 in the aggregate amount of $5 million in both years out of a possible $50 million authorized and $6.5 million in 2008. The program provides diversion, discharge planning and treatment of non-violent mentally ill offenders with serious mental health needs. In 2006, the United States Department of Justice (DOJ) awarded 27 grants in 19 states and the District of Columbia. Two grantees are developing training programs for crisis intervention and ten grantees are

focused on mental health courts. The remaining grantees are looking at corrections programs or considering multiple approaches. In 2007, the DOJ awarded 26 grants in 16 states. Of those receiving planning grants, many have not yet determined the type of program they will implement. Of those receiving implementation and/or expansion grants roughly six are focused on mental health courts and several grantees indicated that they will target juveniles but most will concentrate on adult programs.

Table 4

MIOTCRA Planning & Implementation Grants in 2006 & 2007

	# of Grants / yr	
Type of Grants	FY 2006	FY 2007
Planning Grants	13	13
Planning & Implementation	7	7
Implementation & Expansion	7	6
Total	27	26

Source: United States Department of Substance Abuse and Mental Health Services Administration [U.S. SAMHSA], (n.d.); and United States Department of Justice, (n.d.).

In 2008, the Mentally Ill Offender Treatment and Crime Reduction Reauthorization and Improvement Act of 2008 (S.2304) was passed authorizing $50 million per year. Funded program activities included $48 million for expanding law enforcement capacity to respond to mentally ill offenders, and $2 million to study and report on the prevalence of mentally ill offenders on probation or parole; incarcerated in jail or prison; and the percentage of persons with serious mental illnesses eligible for Supplemental Security Income benefits (Consensus Project, 2008).

Intensive Services for Parolees

Recent grant announcements reveal a focus on the type of intensive services recommended by the literature. A February 2009 grant announcement issued by the

California Department of Corrections and Rehabilitation offers $10 million per year to provide "whatever-it-takes" wraparound services for mentally ill parolee clients. The California Corporation for Supportive Housing describes the California Department of Corrections and Rehabilitation 2008/09 fiscal year Integrated Services for Mentally Ill Parolees-Clients (formerly called Program for Returning Offenders with Mental Illness Safely and Effectively or "PROMISE") grant contracts awarded to Telecare in Los Angeles, San Diego, and San Bernardino Counties; Walden House in City and County of San Francisco and Quality Group Homes in Sacramento (Corporation for Supportive Housing, 2009). Similar programs were already in existence elsewhere in the country. Ohio's Returning Home project started in 2007; New Jersey's PROMISE program started in March 2006; New York State's Parole Supported Treatment Program (PSTP) began in 2001; Bride's Iyana House in Manhattan opened in 2004; New York City's Frequent Users of Jail and Shelter Initiative (FUSE) began in 2009; and Illinois' St. Leonard's Ministries in Chicago started its St. Andrews Court program in 1998 (Sprowls and Naungayan, 2009).

Future Grant Developed Best Practices

In December 2009, the National Institute of Corrections (NIC) released a request for proposals to develop a best practices document and implementation guide for correctional administrators and practitioners in jails, prisons and community corrections institutions dealing with offenders with diagnosed mental illness or those who demonstrate mental health problems (CFDA 16.601). Only one award is expected with the resulting document to be widely disseminated.

In August 2010, the National Institute of Mental Health released a request for applications entitled "*Improving Evidence-Based Mental Health Screening and Treatment for*

Persons with Mental Disorders in the Justice System." Peer review is scheduled for February 2011; Council review is scheduled for May 2011 and awardees are expected shortly before the anticipated start date of July 1, 2011.

Other regularly scheduled grants that may contribute research findings to the field include the U.S. Department of Education's Rehabilitation of individuals who are mentally ill (CFDA 84.129H), the U.S. Department of Veterans Affairs Special Need renewal grant (Funding # VA-BPD-2009-SN; and VA-BPD-2010-SN) and the BJA FY 10 Justice and Mental Health Collaboration Program (Funding 2010 # BJA-GRANTS-042310-006; also issued in 2009 # BJA-2009-2025).

Previous Research on Factors that might influence the Dependent Variable

A. Personal Attributes

1. *Biological defects*

Specific defects of brain functioning are related to and may be the basis for an individual's uncontrolled acting out (Tancredi & Volkow, 1988) such as that of the frontal lobe region as a disinhibitor of social control (Jarvie, 1954; Blumer and Benson, 1975) suggesting that frontal lobe damage may precipitate mental illness or psychopathic personality changes (Grafman, Vance, Weingartner Salazar and Amin, 1986).

2. *Social Competence.*

Gove and Hughes in Messner, et al., (1989, at p. 94) acknowledges the biological component but also suggests that persons who are competent in their social and instrumental roles are less likely to develop severe distress and disorganization, and those who do, are more likely to effectively respond to it. Hence social competence could be considered a protective factor against development of mental illness.

3. *Low IQ.*

Children with low I.Q. may be more prone to engage in delinquent behavior (Moffitt, Gabrielli, Mednick, and Schulsinger, 1981), a factor more important than race and social class in predicting criminal behavior (Hirschi and Hindelang, 1977).

4. *Lack of Awareness and/or understanding of mental illness.*

Kessler (2001) concluded that 54 percent of individuals with serious mental illness had not received any treatment in the previous 12 months. More than half (55 percent) denied they had any problem, and the other 45 percent indicated a variety of reasons for not seeking treatment, but the greatest reason by far was a lack of understanding and awareness of the illness itself. Thirty-two percent wanted to solve the problem on their own and 27 percent thought the problem would get better by itself. Notably only seven percent were concerned about hospitalization against their will.

B. Prior Arrest Predicts Future Arrest

1. Juvenile delinquency.

A juvenile record is a strong predictor of adult offending (Wolfgang, Figlio, and Sellin, 1972) and variables of race and socioeconomic status are most strongly associated with juvenile delinquency (Wolfgang and Ferracuti, 1967).

2. Civil Commitments.

Arvanites (1988) concludes that "increases in commitments for incompetency to stand trial" (ISTs) "as well as prior contact with the mental health system for ISTs are positively related to the rate of deinstitutionalization" (p. 317).

3. Prior Adult Arrests.

Adler (1988) notes that four studies analyzing arrest records of males released from New York State mental hospitals during different time periods which show an increasing percentage of each group had been arrested before their hospitalization: 15 percent in 1947-48 (Brill and Malzber, 1962); 36.7 percent in 1968 (Steadman, Monahan, Dufee, Hartstone and Robbins, 1984); 40 percent 1975 (Steadman, Cocozza and Melick, 1978) and 51 percent in 1978 (Steadman, Monahan, Duffee, Hartstone and Robbins 1984). Adler (1988) reviews mental health hospital population and criminal justice arrest data, concluding that "a sizable problem exists" warranting further investigation (p. 234).

C. Socio-economic Status

(Palermo, Gumz and Liska (1992, p. 57) review several relevant studies including Wolfgang, Figlio and Sellin (1972) and Wolfgang (1777) which focus on the importance of juvenile arrest records to adult offenders and conclude that "variables of race and socioeconomic status were most strongly associated with reported [juvenile] delinquency." Palermo, et al., supra, (p. 57) also discusses the perspective of Siegel (1986, p. 167) who concludes that jail and prison inmates are disproportionately "persons of lower social class and that such persons have disproportionately higher rates of mental disorder" than the general population, but does not exceed that found among members of comparable social class. Siegel asks essentially the same question that Cohen (1966, p. 65) asked twenty years earlier: "Why is delinquency disproportionately frequent among lower class youth?" One of the possible answers is that the deviant acts of actors with mental illness are processed in a biased or inequitable manner (Cohen, 1966). Another possible explanation is that lower class youth and adults experience greater contact with law enforcement just as Farr, et al., (1986)

and Cox et al., (2001) concluded that homeless men and women with mental health problems or those receiving mental health services also experienced greater contact with law enforcement personnel. Or, as Palermo, et al., (1992, p. 57) concluded, that the incarcerated are those who are "unable to avoid detention through legal maneuvering." The implication being that an individual's socioeconomic status was related to the inability to avoid detention despite public defenders and other judicial system protections.

D. Crime Rate / Unemployment Rate

The relationship between crime and the unemployment rate is not as simple or direct as one might suspect. Cantor and Land (1985) modeled the relationship, which pits unemployment against countervailing effects. While unemployment increases motivation to commit crime, it also increases guardianship (more people at home guarding their property). Cantor and Land found the effect of guardianship to dominate the motivation system effects. However, over the next two years of research, motivation has been determined to be the more dominant effect (Arvanites and DeFina, 2006).

E. Improved Correctional Diagnosis of Serious Mental Illness

The historical record indicates that the provision of mental health services within the correctional or prison system has gone from very little or nothing to providing services such as diagnosis, medication and therapy to varying degrees in most prisons. Published prisoner census and demographic data do not contain any information concerning prisoners with mental health conditions until after 2005. Data from the mental health system as to the number of persons receiving mental health services who are residing in jails or prisons has only recently become available.

The exact years in which each correctional institution first began providing mental health treatment and care is not publicly available. When these services are provided, they are almost exclusively provided by medical practitioners hired from the public or private sector. As medical practitioners, it could be suggested or argued that they are bound to provide mental health services to the then-current standards of practice and care. However, access to resources and other administrative, structural and operational issues could impact the ability of medical practitioners to fully implement the then-current private standard of practice and care. Evidence of best practices among correctional mental health forensics is the subject of some discussion (see for example, Magaletta, McLearen, & Morgan, 2007) as is the lack of an enforceable standard of practice and care in forensic mental health assessment (Heilbrun, DeMatteo, Marcyzyk, and Goldstein, 2008; and Grisso, 1986).

Correctional staff certainly have greater opportunity to diagnose previously undiagnosed mental illnesses since criminal behavior is more prevalent among persons up to 25 years of age (Dollard et al., 1967, at p. 117) and since "[a]bout half of Americans will meet the criteria for DSM IV disorder sometime in their life with first onset usually in childhood or adolescence" with 75 percent of cases occurring before age 24 (Kessler, 2005, p. 1). James and Glaze (2006, at p. 4) note that inmates age 24 or younger had the highest rates of mental health problems with 63 percent of state prisoners and 70 percent of jail inmates age 24 or less had a mental health problem compared to 40 percent of state prisoners and 52 percent of jail inmates age 55 or older (a proxy for lifetime onset). Persons judged to be mentally incompetent to stand trial, or those determined to be not guilty by reason of insanity, are not held in jail or state correctional facilities and are not among those surveyed for BJS studies (James and Glaze, 2006, p. 3 footnote 1).

Having acknowledged these limitations, there have been some attempts to address this issue at the state level. In 2002, Robert Powitzky, the Chief Mental Health Officer for the Oklahoma Department of Corrections called for research to determine the number of inmates with mental health diagnoses, the history and severity of their illnesses. In 2007 he noted that while the general inmate population increased 19 percent from 1998 to 2006, the number of inmates receiving psychotropic drugs increased 289 percent in the same period, evidencing the evolution of the correctional management and treatment of persons with mental illness. Several guides have been published recently including the Federal Bureau of Prison's Efforts to Manage Inmate Health Care (2008) as well as Prins and Draper's (2009) *Improving outcomes for people with mental illnesses under community corrections supervision: A guide to research-informed policy and practice.*

The recurrent focus on youth with mental health disorders in the juvenile justice system is the result of a variety of tragedies including homicides committed by juveniles, as well as cases of juvenile neglect and reports of inadequate juvenile services (Cocozza and Skowyra, 2000). The existing research is both scarce and methodologically flawed (Otto et al., 1992; Wierson, Forehand and Frame, 1992). The prevalence of youth with diagnosable mental health disorders in the juvenile justice system is substantially higher than their counterparts in the general population (Otto et al., 1992; Atkins et al., 1999) ranging from 67.2 percent (Wasserman et al. 2004) to 70.4 percent (Shuflet and Cocozza, 2006). At 46.5 percent, disruptive disorders including conduct disorder, was the most common, followed by substance use disorders (46.2 percent), anxiety disorders (34.4 percent) and mood disorders (18.3 percent) such as depression. Even after removing conduct (disruptive) disorders, 66.3 percent of youth met the criteria for at least one other mental health disorder (Shuflet and

Cocozza, 2006). This finding is fairly consistent with the rate of adults with diagnosable mental health disorders in the correctional system which is two to four times higher than the general population (Teplin, 1990). Atkins et al. (1999) concludes that a comparable level of psychopathology in incarcerated and community-based treated youth indicates a need to develop diversionary programs. In 2001, the National Center for Mental Health and Juvenile Justice (NCMHJJ) proposed its *Blueprint for Change: A Comprehensive Model for the Identification and Treatment of Youth with Mental Health Needs in Contact with the Juvenile Justice System* (Skowyra, K.R., and Cocozza, J.J., 2001).

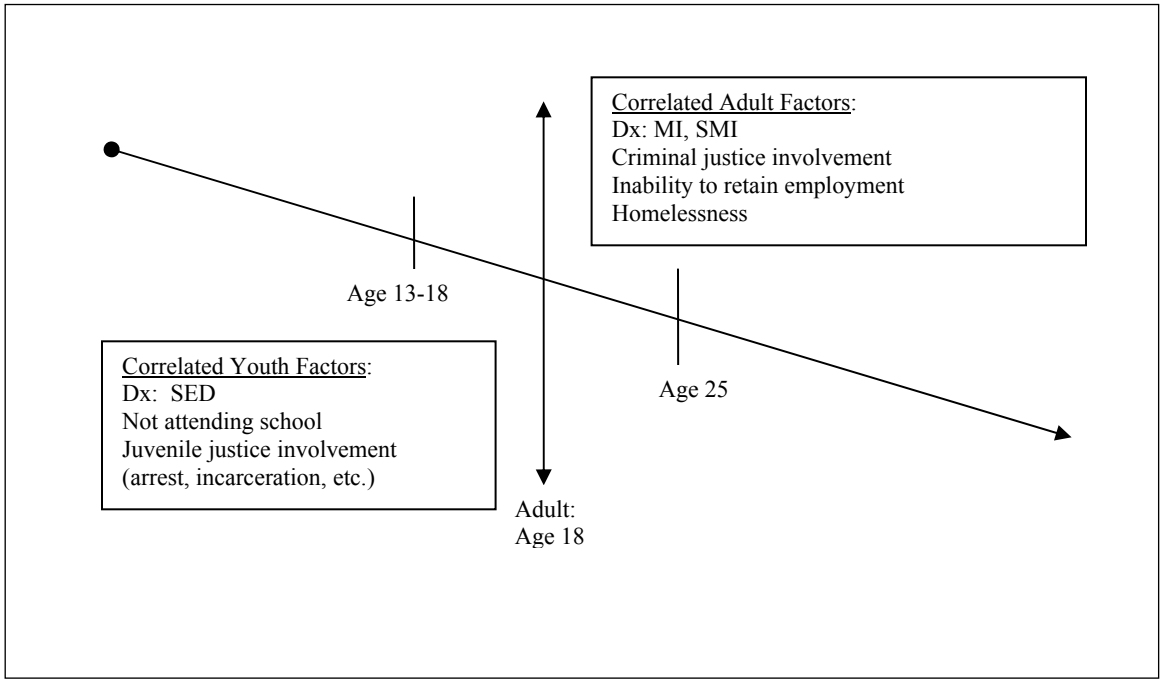

Figure 2. Correlated Criminogenic Factors for Youth and Adults with Mental Illness

Previous Research on Directly Controllable Influential Factors

A. Mental Health Spending and Utilization

The Substance Abuse and Mental Health Services Administration 2005 and 2006 Community Mental Health State-level Uniform Reporting System (CMHS URS) data tables provide data on mental health service utilization (U.S. SAMHSA, n.d.). This data has been

collected since 2004. Implementation of these data measures varies for each state. The CMHS URS data tables is an excel workbook consisting of several spreadsheets for each state. Each workbook includes state progress toward 21 national outcome measures (NOMs). National outcome measures for adults relevant to this work include the number and percent of clients residing in a criminal justice facility (jail, state or federal prison), the number and percent homeless, the number and percent employed, and the number and percent participating in Adult Evidence Based Practices programs. Similar national outcomes measures for children with severe emotional disturbance (SED) include the number and percent residing in foster care or a juvenile justice facility, as well as measures of school attendance. This work will focus on data related to adults, although this author acknowledges the need for similar research among children with severe emotional disturbance (SED).

The Criminal Justice / Mental Health Consensus Project and U.S. SAMHSA, both, articulate a focus on data-driven solutions as well as a focus on the criminal justice involvement of persons with mental illness and serious mental illness. For example, U.S. SAMHSA's Data Infrastructure Grants for quality improvement include a focus on the criminal involvement of adults, young adults and adolescents (Lutterman and Gonzales, 2009). A summary of grant opportunities available to support relevant research is presented in Appendix 2. Existing research on mental health spending for those who are criminally involved typically face the cross-systems issues described earlier or are program evaluations of small scale MIOTCRA funded diversion programs (e.g., Mayfield, 2007). No systematic research was found that considers the funding, utilization, type and intensity of mental health services provided to criminally involved persons with outcomes tied to rates of criminal offending or re-offending before, during or after targeted program participation or

intervention. Lutterman and Gonzales (2009) however, describes the purpose of the U.S. SAMHSA URS tables as a means of measuring within state performance and, due to variations in the state mental health system missions and priority populations across the nation, caution against across or between state comparisons.

Research Hypothesis

The hypothesis being tested is: Does utilization of traditional mental health services or evidence-based mental health practices in 2005 reduce the number of individuals with mental illness incarcerated in 2006, controlling for 2005 incarceration, employment status, housing status and crime rate?

Nine variables were selected to test the hypothesis of which four are control variables. Two of the 31 URS basic measures were selected to evidence use of traditional mental health services: 2005 Mental Health Community Utilization rate per 1,000 and 2005 Mental Health Services Penetration rate per 1,000. Three of the 7 URS developmental variables were selected to represent Evidence Based Practices (EBP): the percent of state mental health consumers participating in Assertive Community Treatment programs in 2005; the percent of state mental health consumers participating in EBP supported housing and the percent of state mental health consumers participating in EBP supported employment programs. These three measures were selected to parse out the possibility that any of the Evidence Based Practices alone or in combination have a significant impact on the probability of incarceration. The remaining four variables control for crime rate, prior year incarceration, employment and housing status.

The regression formula to test these hypotheses is as follows:

$$Y \approx f(X, \beta)$$

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \varepsilon$$

Y = Percent of mental health consumers residing in state prisons in 2006

X_1 = 2005 Mental Health Community Utilization rate per 1,000

X_2 = 2005 Mental Health Services Penetration rate per 1,000

X_3 = 2005 Percent of mental health consumers served by Evidence-Based Programs (EBP)

X_4 = 2005 Percent of mental health consumers served by EBP Supported Housing

X_5 = 2005 Percent of mental health consumers served by EBP Supported Employment

X_6 = 2005 Percent of mental health consumers homeless

X_7 = 2005 Percent of mental health consumers in jail, prison or correctional facility

X_8 = 2005 Percent of mental health consumers employed

X_9 = 2005 Crime Rate per 100,000

$\beta_{1\text{-}9}$ = unknown parameters (coefficient) of each independent variable, above, X_1 to X_9

The null hypothesis is: The 2005 utilization of either traditional mental health services or Evidence Based Practices (EBP) has no relationship to the number of persons with mental illness who are incarcerated in 2006 controlling for intervening factors such as criminality (prior year incarceration), prior year employment (protective factor) or unemployment (risk factor), or prior year housing status (privately housed, a protective factor or homeless, a risk factor

Chapter 3: Methodology and Analysis of Alternatives

A. Research Design

This project utilizes a cross-sectional research design involving historical point-in-time data gathered by U.S. state correctional and mental health systems. A multiple regression equation will be used to determine whether the provision of mental health services is correlated with avoidance of imprisonment.

Since the literature does not clearly establish a hierarchical order to the potential independent variables, a simple regression analysis will be used. Multiple regression analysis is utilized in this case to predict a single continuous dependent variable (rate of incarceration of persons with mental health illnesses) using one or more nominal or continuous independent variables (penetration rate of community mental health services). Linear regression will also be utilized in this case to predict a single continuous dependent variable using a continuous independent variable.

Related desirable outcomes would be a lowered rate of criminal justice system participation and the protective variables that lead to such an outcome such as employment and maintenance of housing. Undesirable related outcomes include continued criminal justice system participation through re-arrest and/or re-incarceration and those determinative variables most closely correlated with this undesirable outcome, such as ***unemployment*** and ***homelessness***.

The provision of both traditional as well as evidence-based mental health services will be tested to see if these types of services are correlated with not returning to jail or prison when controlling for the other independent variables. The time lag in criminal case processing will be accounted for by regressing the state mental health services treatment

penetration rate in 2006 throughout the United States on the 2005 rate of persons with mental health illnesses among the state prison population throughout the United States. To contribute to the development of a structural model, potential independent variables will be tested to determine strength of association; a Wald test will be used to test joint significance of relevant independent variables and path analysis will be utilized to build a theoretical explanation based on any pattern of association between the variables.

B. Measurement

1. Dependent Variables

The dependent variable, the number and rate of persons with mental health diagnoses in jail and prisons throughout the country is taken from 2006 Bureau of Justice Statistics census (James and Glaze, 2006). The number of persons served in 2005 through traditional community-based and evidence-based mental health services & service penetration of traditional mental health services is taken from Substance Abuse and Mental Health Services Administration (U.S. SAMHSA, n.d.) public data. [4] Evidence-based community mental health programs include jail diversion, and discharge planning programs funded by MIOTCRA, among other funding sources). Among the data used to determine access to these programs is the service penetration of both traditional and evidence-based mental health programs.

The U.S. SAMHSA dataset indicates the living situation of consumers served by state mental health agency systems in Table 7 and the summary table. The data description indicates that this data includes known consumers of mental health services living in jails or prisons as of June 30th of the reporting year. Given that the mental health data only indicates

[4] Data is available for the 50 States as well as the District of Columbia. These jurisdictions are referred to collectively as "states" for the ease and convenience of the reader.

the location (rather than the sentencing status of individuals) this researcher opts to use the broadest definition of "prisoners under the jurisdiction" of state or federal correctional authorities.

U.S. Department of Justice (James and Glaze) data identifies prisoners who self-report previous mental health treatment. As a baseline comparison, the number of mental health clients residing in jails or prisons will be compared with those prisoners presenting with pre-existing mental health diagnoses. Total Corrections Population comparing 06/30/05 to 06/30/06 from Prison & Jail Inmates at Mid-Year 2006 Appendix Table 2 at p. 14: Prisoners under the jurisdiction of state or federal correctional authorities.

2. Independent Variables

The literature indicates a wide variety of potential independent variables considered to contribute to the rate at which persons with mental illness are sentenced to jail terms (less than one year) or state prison terms (more than one year). Independent variables include: ***age*** (both criminal behavior and severe mental health symptoms are more likely in youth or young adulthood); ***severity of mental health symptoms*** (and related variables such as ability to hold a job, etc.); ***detrimental financial descriptors*** such as lack of employment, poverty, low income and low socioeconomic status, lack of shelter (homelessness); lacking the financial and functional resources to avoid ***frequent law enforcement contact***, ***prior juvenile or adult arrest and incarceration*** which has been shown to predict future arrest and incarceration, and ***state per capita incarceration rate.*** The ***relative cost of living*** was not uniformly available across the geographic and time frame of this inquiry. The ***type of crime and length of sentence*** are individual variables for which aggregate measures were not available across the geographic and time frame of this inquiry.

C. Data Collection

1. Data: U.S. Substance Abuse and Mental Health Services Agency (U.S. SAMHSA) Community Mental Health state-level ***2005 service penetration*** cross-sectional data and ***2005 criminal-justice involved persons*** cross-sectional data was retrieved on 07/27/2009 at the U.S. SAMHSA website. U.S. SAMHSA 2005 service penetration data is compared with US DOJ ***state prison population of persons with mental health diagnoses*** cross sectional data from 2006 (James and Glaze, 2006, supra). U.S. DOJ state prison population was obtained for 2005 and 2006 (James and Bonczar, 2006 and 2007, respectively). U.S. Census Bureau 2006 state residence population estimates were obtained on-line at the U.S. Census Bureau website. State prison population divided by state population estimates yielded prison incarceration rates. The ***age*** of incarcerated persons is aggregated for all prisoners across age ranges from the U.S. DOJ state prison population census, but is not disaggregated for subpopulations including incarcerated persons with mental health diagnoses. Similarly, age data for mental health consumers are available across age ranges; but is not disaggregated for those who are "criminal justice involved." ***Prior law enforcement contact, arrest/incarceration***: U.S. SAMHSA data does identify the proportion (percent) of total persons served in each state that are considered "criminal justice involved" which typically means that persons counted in this category would have had at least some prior law enforcement contact; most likely a prior arrest or incarceration.

2. Competing Theories

1. Improved state prison mental health services have resulted in greater numbers (a more accurate number) of state prisoners with known mental health diagnoses including newly diagnosed mental health illnesses in previously undiagnosed persons.

2. Improved access, availability and/or successful completion of community mental health and substance abuse services (as a result of Prop 36, or other similar measures) nationwide has resulted in a decrease in the number of persons with mental health diagnoses going to or returning to prison.

3. Improved access to community job training programs have increased the number of criminally involved persons with mental health diagnoses who are employed and thereby reduced the number with continuing criminal justice involvement and return to prison.

4. Improved access to employment has reduced the number of criminally inclined persons from committing crimes and entering prison.

5. The number of people with mental health diagnoses sentenced to state prison as a result of serial instances of committing crimes of survival triggering long-term 3-strikes type state prison sentencing laws and/or guidelines.

D. Regression Analysis

A regression analysis will be performed to determine whether there is a statistically significant relationship between the provision of community mental health services and the number of inmates with mental illnesses in jail or state prison in the following year. The investigator will control for general population variables including population, unemployment, poverty, and crime rate; as well as sub-population variables including the relative availability of jobs (as measured by the percentage of mental health clients employed) and the penetration (utilization) of model programs such as supported housing, supported employment and Assertive Community Treatment for each state.

E. Limitations of the Study

1. Cross System Data Consistency

In order to get a sense for the continuity of data across systems (to validate the continuing existence of cross-systems data problems cited earlier), the number of inmates with mental health diagnoses in 2005 will be compared between two sources. The criminal justice source is a mid-year 2005 Bureau of Justice Statistics publication which provides the number of inmates in state prison and local jails with diagnosed mental illnesses. This is compared with the Center for Mental Health Standards Uniform Reports from 2006 for the prior 2005 federal fiscal year, providing the number of mental health clients known to be residing in prison or jail for each state.

2. Cross-Sectional Data

This work is limited in that the aggregate cross-sectional data used is within system data and does not include individual or aggregate level data identified in the literature as potentially influential: ***age***, ***financial descriptors, severity of mental health symptoms***, ***and type of crime*** or ***length of sentence***.

3. Cross-Sectional versus Longitudinal Analysis

Ideally, it would be useful to look at the longitudinal pattern and frequency of the correctional system to diagnose persons with mental illness to get at the issue of whether the correctional system has simply gotten better at mental health diagnoses over time. This data is not available; prison census and prisoner demographic information used in this work does not contain mental health diagnosis data prior to 2005. Data from the mental health system as to the number of persons receiving mental health services who are residing in jails or prisons

has only recently become available. As a result, longitudinal analysis while ideal is not yet possible.

4. Administrative Data versus Self-Reported Data

Historical administrative data is used because it is considered more reliable than survey respondents' self-report which tends to underestimate the extent of criminal justice involvement (Pandiani, Bank and Mongeon, 2006).

5. Serial Auto-Correlation

Serial auto-correlation is identified as a potential source of problems with the model since both core and contributing factors including functional mental health status, criminality, substance use, homelessness or unemployment are conditions that tend to be serially correlated from one year to the next.

Chapter 4: Results

Chapter Overview

This study used available state-level data from the Substance Abuse Mental Health Services Agency (U.S. SAMHSA) to test the hypothesis: Does utilization of traditional mental health services or evidence-based mental health practices in 2005 reduce the number of individuals with mental illness incarcerated in 2006, controlling for 2005 incarceration, employment status, housing status and crime rate? The dataset for the years studied, 2005 to 2006, does not support this hypothesis. Data discontinuity resulted in selection of one data source rather than utilization of data from both, mental health and criminal justice / corrections systems. State mental health data is drawn from a population that is disproportionately individuals diagnosed with serious emotional or mental health symptoms. Protective and risk factors were included in the regression analysis to determine if they avoided or contributed to incarceration risk, respectively. Protective factors included receiving community mental health services, receiving Assertive Community Treatment (ACT), an evidence-based practice (and key ACT program elements) and being employed. Risk factors included homelessness and prior year incarceration. Of these protective and risk factors, only 2005 incarceration and 2005 homelessness were significantly associated in this dataset with the 2006 incarceration of state mental health consumers.

Data discontinuity

The available data for fiscal years 2005 and 2006 reflects an increase over prior year's data collection by both the mental health and criminal justice / corrections systems, but the data do not yet reflect continuity between or across systems. The data available for years 2005 and 2006 remains limited in both scope and range. Tables 5 and 6 illustrate this

discontinuity on the question: How many state prison inmates have a history of receiving mental health services?

TABLE 5

Summed Total of State Mental Health Data - 2005

State Mental Health Data (2005)	Total
Clients Incarcerated (Fed, State & Jail)	101,094
4 states not reporting (MO, MT, OR & SD)	

Source: Substance Abuse and Mental Health Administration (U.S. SAMHSA) Center for Mental Health Services (CMHS) Uniform Reporting System (URS) Data Output Tables, 2005.

TABLE 6

Inmates' Mental Health Problems – Mid Year 2005

BJS Data	State Prison Inmates		Federal Prison Inmates		Jail Inmates		Total
(mid-year 2005)	Number	Percent	Number	Percent	Number	Percent	Number
No mental health problem	549,900	*43.8%*	86,500	*55.2%*	267,600	*35.8%*	904,000
Any mental health problem	705,600	*56.2%*	70,200	*44.8%*	479,900	*64.2%*	1,255,700
History & Symptoms	219,700	*17.5%*	13,900	*8.9%*	127,800	*17.1%*	361,400
Symptoms only	396,700	*31.6%*	48,100	*30.7%*	322,900	*43.2%*	767,700
History only	85,400	*6.8%*	7,500	*4.8%*	26,200	*3.5%*	119,100
Symptoms of Mental Health Disorders							
Depressive disorder	165,816	*23.5%*	11,232	*16.0%*	142,530	*29.7%*	319,578
Mania disorder	304,819	*43.2%*	24,640	*35.1%*	261,546	*54.5%*	591,005
Psychotic disorder	105,840	*15.0%*	7,160	*10.2%*	115,176	*24.0%*	228,176

Source: James and Glaze, 2006, p 3.

The size of the between-systems discontinuity varies depending upon which measure one compares. The criminal justice system data indicates significantly more inmates currently experiencing symptoms compared to those who reported a prior history of receiving mental

health services or treatment. A prior history of receiving mental health services or treatment was defined by the researchers as an overnight hospital stay for a mental health problem, using prescribed medications or receiving professional mental health therapy.

As shown in Table 5, the total number of mental health clients living in a correctional setting is 101,094 persons (US SAMHSA, 2005, with four states not reporting). In Table 6, the number of inmates reporting a history (only) of mental health problems in 2005 is a total of 119,100 (James and Glaze, 2006). Of several possible measures, these two measures are the closest, having a difference of approximately 18,000 or roughly 17 percent. This difference is larger than the likely reporting range for the four non-reporting states which, conservatively estimated is between 30-100 per state for an additional 120 and 400 persons.

The number of inmates meeting the DSM definition of psychosis is nearly double the number of mental health clients reported incarcerated. The over 1.2 million inmates exhibiting either mental health symptoms or having a history of mental health treatment is more than 10 times the number of mental health clients reported incarcerated.

A few possible explanations for these discrepancies include: situational prison conditions resulting in mental health symptoms; tangible or intangible benefits to receiving mental health services and treatment within the prison environment; tangible or intangible disincentives to accept or reasons to decline mental health services and treatment outside of the prison environment; as well as other unknown individual or aggregate factors.

State mental health clients are disproportionately diagnosed with serious mental illness.

The proportion of adult state mental health clients diagnosed with Serious Mental Illness (SMI) or youth diagnosed with Serious Emotional Disturbance (SED) is, for a majority of states, a significant portion of the total clients served. Of the jurisdictions for which there is

data, 18 states reported that SMI/SED clients comprised 81 to 100 percent of total clients served; 24 states reported between 41 and 80 percent; 7 states reported between 21 and 40 percent; no states reported having between 1 to 20 percent and 2 states did not report. The rate of youth with SED is, for the reasons discussed earlier, of equal concern to researchers and public policy decision makers within the juvenile and adult justice / correctional systems as well as the mental health systems of care.

Utilization of community mental health services is not significantly correlated with the avoidance of imprisonment.

In this dataset, measures of the rate of community mental health service provision in 2005 are not significantly inversely correlated with the percent of incarcerated mental health clients in 2006. The 2005 community mental health services utilization rate per 1,000 population is not significantly correlated with the percent of state mental health agency clients in jail, prison or correctional facility in 2006 ($r = .105$; $p = .463$; $N = 51$). The 2005 community mental health services penetration rate per 1,000 population is not significantly correlated with the 2006 incarceration of mental health clients in jail, prison or correctional facilities ($r = .078$; $p = .589$; $N = 51$).

Protective Factors:

1. Employment in 2005, a possible protective factor, was not significantly inversely correlated with incarceration in 2006 ($r = .122$; $p = .394$; $N = 51$).
2. Participating in community mental health services in 2005, a possible protective factor, was not significantly inversely correlated with incarceration in 2006 ($r = .105$; $p = .463$; $N = 51$).

3. Participating in Evidence-Based Practices (EBPs) in 2005 including Assertive Community Treatment (ACT), Supportive Housing and Supportive Employment, are all considered possible protective factors. In this dataset however, none of these services were significantly inversely correlated with incarceration in 2006 (Assertive Community Treatment: r = -.117; p = .412; N = 51; Supportive Housing: r = -.076; p = .598; *N* = 51; and Supportive Employment: r = -.109; p = .446; *N* = 51). It is possible that aggregating ACT programs with varying levels of fidelity eroded measures of correlated success or the significance of the treatment as a protective factor in subsequent incarceration.

Risk Factors

1. Homelessness: The percent of 2005 State Mental Health Agency clients homeless, a possible risk factor, is significantly correlated with the percent of state mental health agency clients in jail, prison or correctional facility in 2006 (β = -0.146; SE = 0.072). The zero-order correlation, however, was not significant (r = -.085; p = .553; *N* = 51).

2. Prior Year Incarceration: The percent of state mental health agency clients incarcerated in 2005 is significantly correlated with the percent of those who were incarcerated in 2006 (r = .540; p = .000; *N* = 51; significant at the 0.01 level 2-tailed; β = 0.303; SE = 0.092). However, this may simply reflect that the sample was drawn from state prisons where sentences are typically greater than one year. It could also reflect re-incarceration consequent to revocation of probation or parole as a result of technical violations or new criminal charges. These alternative explanations cannot be supported or eliminated on the basis of the available data.

Multivariate Regression Analysis

Table 7 displays the results of the multivariate regression predicting incarceration in 2006 among state mental health clients receiving mental health services in 2005, controlling for community utilization rate (per 1,000 in population) and crime rate (per 100,000 in population). Missing values were handled by list wise deletion.

Table 7

Summary of regression analysis of the proposed model ($N = 48$).

Variable	B	SE B	B
2005 SMHA Penetration rate per 1000 population	-0.029	0.046	-0.164
2005 SMHA Community Utilization rate per 1000 population	0.007	.043	.037
2005 SMHA Clients in jail, prison, or correctional facility	0.303	0.092	0.495
2005 SMHA clients homeless	-0.120	0.077	-0.243
2005 SMHA clients employed	0.015	0.012	0.183
2005 % SMHA EBP ACT of total clients	-0.111	0.102	-0.172
2005 % SMHA EBP Supportive Housing of total clients	-0.115	0.146	-0.264
2005 % SMHA EBP Supportive Employment of total clients	0.125	0.323	0.135
2005 Crime Rate	0.000	0.000	-0.102
$R = 0.559$; $R^2 = 0.312$; Adj. $R^2 = 0.154$			
$F = 5.628$ (5, 50); $p = 0.07$			

The proposed model does not significantly predict the percent of mental health consumers incarcerated in 2006 based on the 2005 utilization and participation in evidence-based programs ($p = 0.07$). The corrected model is highly significant for predicting the percent of mental health consumers incarcerated in 2006:

$Y = 1.45 + -0.146\ X_1 + 0.356\ X_2 + \varepsilon$

Y = Percent of mental health consumers residing in state prisons in 2006

X_1 = 2005 Percent of mental health consumers homeless

X_2 = 2005 Percent of mental health consumers in jail, prison or correctional facility

Table 8 displays the results of the regression analysis for the corrected model consisting of the two independent variables 2005 percent of mental health consumers residing in jail, prison or correctional facility and the 2005 percent of mental health consumers that are homeless with a significant relationship to the dependent variable the percent of mental health consumers residing in state prisons in 2006 in this data set.

Table 8

Summary of regression analysis for the corrected model ($N = 48$).

Variable	B	SE B	B
2005 SMHA Clients in jail, prison, or correctional facility	0.303	0.092	0.495
2005 SMHA clients homeless	-0.120	0.077	-0.243
R = 0.598; R^2= 0.358; Adj. R^2 = 0.331			
F = 13.395 (2, 50); p = 0.000			

The final model explains 36 percent of the total variation in the percentage of mental health consumers incarcerated in 2006 accounted for by prior year homelessness and incarceration.

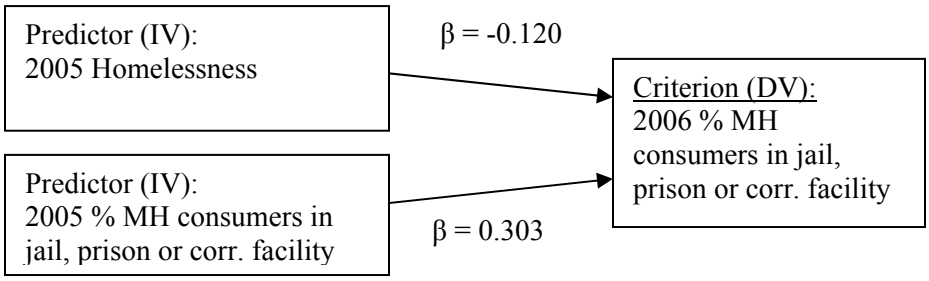

Figure 3. Path Diagram

Chapter 5 discusses the findings and implications of these results and makes recommendations for future research.

Chapter 5: Summary, Conclusions and Recommendations

Summary

This study used available state-level data from the Substance Abuse Mental Health Services Agency (U.S. SAMHSA) to test the hypothesis: Does utilization of traditional mental health services or evidence-based mental health practices in 2005 reduce the number of individuals with mental illness incarcerated in 2006, controlling for 2005 incarceration, employment status, housing status and crime rate? The dataset for the years studied, 2005 to 2006, does not support this hypothesis.

Conclusions

The utilization of either community-based mental health services or evidence-based practices (specialized mental health programs) in 2005 was not significantly correlated to the avoidance of incarceration in 2006 of persons with mental health diagnoses.

Recommendations

1. Improved data systems

Improved data collection is necessary to resolve the discontinuity and discrepancies between the criminal justice and mental health data collection systems. Until mental health and corrections policy and service researchers are able to follow a discrete cohort of criminally-involved persons receiving mental health services prior to, during, and after incarceration; including those receiving general community mental health services as well as those receiving evidence-based mental health practices including specialized forensic services (e.g., MIOTCRA, ACT, FACT, etc.) for the criminally involved, the efficacy and cost-effectiveness of these services cannot be conclusively addressed. Health care reform legislation (comprised of both Senate bill *Patient Protection and Affordable Care Act*

of 2010 and the House bill *Health Care and Reconciliation Act of 2010*) provided for electronic medical health records (EMHR). These linked medical health records may offer the opportunity to close the gaps between public, private and correctional medical and mental health records. As a result, electronic medical health records may offer the opportunity to conduct the rigorous longitudinal research needed to guide the mental health field in understanding the criminality of the population receiving mental health treatment and services, as well as guide the correctional field as to the persistent and situational mental health needs of the incarcerated population. The Federal Bureau of Prisons, Arizona, California, Texas, and other states are already working on this task, originally for medical and legal cost-containment reasons.

2. Individual Level Longitudinal Data Analysis

Improving access to analysis of individual level data may yield interesting opportunities for intervention and prevention. Individual level data may include for example, personal attributes such as biological brain functioning defects, measures of low social competence, low IQ, and lack of self-awareness of a mental illness. Juvenile arrest and juvenile justice system involvement offers another rich opportunity for both intervention and prevention of adult justice system involvement as well as data analysis.

3. Improved Standard of Care

This author acknowledges and joins Heilbrun, et al., (2008), in recommending the development of a clear standard of correctional mental health practice. In arguing for a standard of practice, Heilbrun, et al., (2008, p. 1) acknowledges two decades of "significant conceptual and empirical advances" including response to legal demands, the development of empirically validated tools, and the publication of specialized ethical guidelines including the

American Psychological Association [APA] Committee on Professional Practice and Standards, (1994), and the Committee on Ethical Guidelines for Forensic Psychologists, (1991). Despite these advances, Heilbrun et al., (2008, p. 1-2), acknowledges the "considerable inconsistency in the quality of forensic assessment practice" (Borum & Grisso, 1995; Bow & Quinnell, 2001; Christy, Douglas, Otto & Petrila, 2004; Hecker & Steinberg, 2002; Heilbrun & Collins, 1995; Horvath, Logan & Walker, 2002; LaFortune & Nicholson, 1995; Nicholson & Norwood, 2000; Otto & Heilbrun, 2002; Ryba, Cooper & Zapf [sic Zanf], 2003; Skeem & Golding, 1998; Wettstein, 2005) and the "limited substantive or regulatory guidance for many forensic professional activities" … "mak[ing] it difficult to determine what constitutes minimally satisfactory practice…" (p. 2).

4. Additional Research

Additional research is needed to determine the effectiveness of community and specialized mental health services in postponing, reducing or eliminating criminal behavior by both juveniles and adults with mental illness over time. These services, both mental health and criminal justice, are expensive and identification and replication of effective interventions could have significant budgetary implications. As a result, research to determine the both the cost-effectiveness of these interventions and for which portions or segments of the target population they are most effective has the greatest likelihood of informing public policy makers, state mental health and corrections administrators and yielding budgetary savings.

One possible avenue for further research is to utilize more recent data to test these hypotheses. As indicated earlier, states are not uniform in the way they implemented National Outcome Measures (NOMs) data collection practices. As a result, while there is

sufficient data in years 2005 and 2006 to test these hypotheses, data for years 2007 through 2009 is now available and this author recommends further resting using these data sets to test these hypotheses (US SAMHSA, n.d.).

Finally, funding is available to support these research efforts. A recently released Funding Opportunity Announcement may provide some funding for this research. The U.S. Department of Justice recently released an announcement seeking applications from states and territorial Statistical Analysis Centers (CFDA # 16.550) funding. Applicants may choose from among several themes listed or, if supported by evidence, applicants may propose themes not listed. One of the listed themes includes analyses utilizing a state's criminal history records to determine the impact of programs (Theme 5.d. at p. 8) which could include the evidence-based practices, programs and services that are the subject of this inquiry. A list of these recently released research grant opportunities are listed in Appendix #2.

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APPENDIX A: Institutional Review Board

CSUB

Grants, Research, and Sponsored Programs
California State University, Bakersfield
24 DDH
9001 Stockdale Highway
Bakersfield, California 93311-1022
(661) 654-2231
FAX (661) 654-3342

Institutional Review Board for Human Subjects Research

Date: 15 April 2009

To: Bonita Steele, PPA Student

cc: Paul Newberry, IRB Chair
R. Steven Daniels, Public Policy and Administration

From: Steve Suter, Research Ethics Review Coordinator

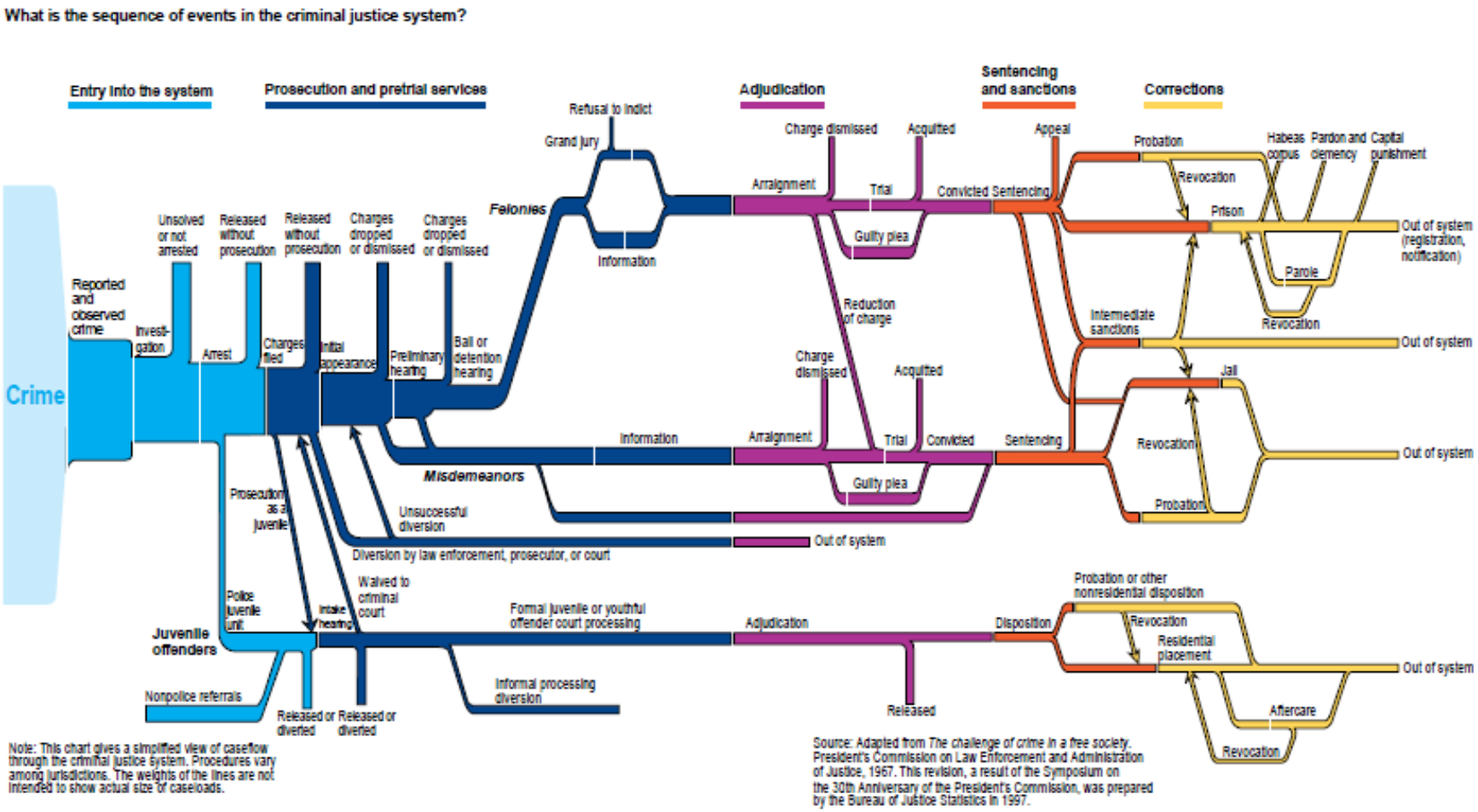
Subject: Protocol 09-90: Not Human Subjects Research

Thank you for bringing your protocol, "**The Impact of Community Mental Health Funding Levels On the Percent of Prison Population with Mental Health Diagnoses,**" to the attention of the IRB/HSR. You state in your materials, received 4-15-09, that your project will be limited to accessing publicly available data and reviewing the existing research literature looking at the possible relationship of funding and mental health diagnoses among the prison population. You will not interact with any databases containing personal identifiers. Your project will include no data collection from human subjects, including structured interviews. Given this, the activity described in this protocol does not constitute human subjects research. Therefore, it does not fall within the purview of the CSUB IRB/HSR. Good luck with your project.

If you have any questions, or there are any changes that might bring these activities within the purview of the IRB/HSR, please notify me immediately at 654-2373. Thank you.

Steve Suter, University Research Ethics Review Coordinator

Appendix B: U.S. Criminal Justice Flow Chart



Appendix C: Research Grants and Related Resources

Bureau of Justice Assistance Grant Writing and Management Academy
http://bhja.ncjrs.gov/gwma/module1/index.html

Research Grants *(Listed by submittal deadline)*

US Dept of Justice (DOJ), Office of Justice Programs (OJP), Bureau of Justice Assistance (BJA) Solicitation: *Justice and Mental Health Collaboration Program FY 2011 Competitive Grant Announcement*, released 11/30/10, deadline: 02/03/11 (applications are limited to states, units of local government federally recognized Indian tribes and tribal organizations), retrieved from http://www.ojp.usdoj.gov/BJA/grant/11JMHCSol.pdf.

US Dept of Justice (DOJ), Office of Justice Programs (OJP), Bureau of Justice Statistics (BJS) Solicitation: *State Justice Statistics Program for Statistical Analysis Centers, 2011*, posted 11/24/10, deadline: 02/28/1, retrieved from http://bjs.ojp.usdoj.gov/content/pub/pdf/sjssac11_sol.pdf.

US Dept of Justice (DOJ), Office of Justice Programs (OJP), National Institute of Justice (NIJ) Solicitation: *Data Resources Program 2011: Funding for Analysis of Existing Data*, posted 11/30/10, deadline: 02/28/11, retrieved from http://www.grants.gov/search/search.do?mode=VIEW&oppId=58940

US Dept of Justice (DOJ), Office of Justice Programs (OJP), National Institute of Justice (NIJ) Solicitation: *NIJ Ph.D. Graduate Research Fellowship Program FY 2011*, posted 11/30/10, deadline: 02/28/11 (applications are limited to degree-granting educational institutions in the United States), retrieved from http://www.ojp.usdoj.gov/nij/funding/graduate-research-fellowship/welcome.htm and http://ncjrs.gov/pdffiles1/nij/sl000965.pdf.

US Dept of Justice (DOJ), Office of Justice Programs (OJP), National Institute of Justice (NIJ) Solicitation: *Building and Enhancing Criminal Justice Researcher-Practitioner Partnerships*, posted 12/01/10, deadline: 03/01/11, retrieved from: http://www.grants.gov/search/search.do?mode=VIEW&oppId=58950

OJJDP FY 2011 *Field Initiated Research and Evaluation Program* posted 01/06/2011, deadline: 03/07/11, retrieved from: http://www.grants.gov/search/searchg.do?mode=VIEW&oppId=62793

US Dept of Justice (DOJ), Office of Justice Programs (OJP), National Institute of Justice (NIJ) Solicitation: *Research and Evaluation in Justice Systems* posted Jan 2011, deadline: 03/17/11, retrieved from http://www.ncjrs.gov/pdffiles1/nij/sl000967.pdf.